IN THE SPECIFICATION

Please amend the paragraph at page 1, lines 12-16, as follows:

A1

A digital transmission system conveys information using a physical medium such as a cable, optical ~~fibre~~ fiber or propagation on a radio channel[[,]] and satellite ~~or not~~. Such a physical medium will be referred to as the channel. Generally, such a system ~~comprises in particular, with regard to transmission,~~ includes a channel coding device and~~, with regard to reception,~~ a decoding device.

Please amend the paragraph at page 1, lines 17-25, as follows:

A2

The channel coding device has ~~a so-called~~ an error correction coding function. The function of the error correction coding ~~consists of~~ includes generating, for a useful information item, a redundant information item which, during decoding at the destination, will make it possible to ~~reconstitute~~ reconstruct the useful information from the information arriving at its destination affected by disturbance such as the noise, attenuation and interference type occurring on the channel~~, notably of the noise, attenuation and interference type~~. A digital transmission method using such a channel coding ~~associated with a corresponding~~ and destination decoding is referred to as a transmission method of the error correction coding type.

Please amend the paragraph at page 1, last line to page 2, line 16, as follows:

A3

The quality of a digital transmission system is evaluated, in general, by calculating the probability of error per bit transmitted. This is notably a function of the signal to noise ratio of the link. The error correction coding, associated with the corresponding decoding, aims to improve the quality of the transmission by virtue of the redundancy introduced into the signal. Redundant information having been introduced by the coding device, the decoding

device will use the redundant information received and its knowledge of the coding law in order to correct any errors. In other words, at the destination, from the received information damaged by the channel, the corresponding useful information is ~~reconstituted~~ reconstructed. For example, because of the redundancy, only certain sequences of coded information, in accordance with the coding law, are possible. If received information sequences to be decoded are different from these possible sequences, it is because they correspond to information damaged by the channel. In the case of a maximum likelihood decoding, the decoding method will ~~reconstitute~~ reconstruct the useful information by determining, from the sequence of information received and considering the different permitted sequences, the most likely useful information sequence.

A7

Please amend the paragraph at page 3, lines 5-15, as follows:

Known error correction codes are block codes. Block coding consists of associating, with each block of k information bits, a block of n bits (n>k) therefore containing (n-k) redundant bits. The block of n bits is obtained by multiplying the block of k useful bits by a matrix with k rows and n columns referred to as a code generating matrix. When, by permutation, the generating matrix is written in a ~~form~~ form such that it reveals the identity matrix, so that, in the block of n bits, the k information bits and the n-k redundant bits are separated, the code is said to be systematic. The efficiency of the code is equal to k/n. The decoding device detects the errors and corrects them by means of the minimum Hamming distance. Such error defection codes which are well known in the art are for example Hamming codes, BCH codes and Reed-Solomon codes.

A4

Please amend the paragraph at page 6, line 16 to page 7, line 10, as follows:

A5

The term turbodecoding encompasses various concatenation schemes which can be envisaged, dependent for example on the type of turbocoding used. For example, in a turbodecoding corresponding to a serial concatenation turbocode, the elementary decoders being associated in reverse order of the elementary coders, each elementary decoder receives two [[a]] priori weighted information items corresponding one to the output information from the corresponding elementary coder and the other to the input information of the corresponding elementary coder. This elementary decoder produces two [[a]] posterior[[()]] weighted information items, one corresponding to the output of the corresponding elementary coder and which therefore becomes, during a following iteration, after corresponding interleaving, the [[a]] priori input of a preceding elementary decoder, and the other corresponding to the input of the corresponding elementary coder, and which therefore becomes, in the same iteration, after corresponding deinterleaving, the [[a]] priori input of a following elementary decoder. Examples of turbodecoding for serial concatenation turbocodes are described notably in the aforementioned articles "Serial concatenation of interleaved codes: Performance analysis, design and iterative decoding" written by S. Benedetto, G Montorsi, D. Divsalar and F. Pollara, in JPL TDA Prog. Rep., vol. 42-126, in August 1996 and "Analysis Design and Iterative Decoding of Double Serially Concatenated Codes with Interleavers" written by S. Benedetto, D. Divsalar, G. Montorsi and F. Pollara, in IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, vol 16, No 2, pages 231-244 in February 1998. The elementary decoders are in general concatenated in series, but other types of concatenation may be envisaged.

Please amend the paragraph at page 7, lines 11-14, as follows:

A6

Whatever the case, the extrinsic information can always be defined as the additional information afforded by an elementary decoding associated with an elementary coding with respect to [[an]] a priori information item, acting at the input of the elementary decoding.

Please amend the paragraph at page 8, lines 14-21, as follows:

A7

However, it is known that the performance of a transmission using an error correction code varies according to the transmission conditions. Transmission conditions means the parameters having [[am]] an influence on the performance of the transmission such as in particular the signal to noise ratio, but also the bit or packet error rate, the signal to interference plus noise ratio, the number of active users of a telecommunications system, the quality of service required by the transmission system, the speed of movement of the user of the transmission system or any other parameter.

Please amend the paragraph at page 11, lines 18-24, as follows:

A8

Naturally, it is essential for the determination of a redundancy distribution to be the same at the transmitter as at the receiver. Thus the latter variant will be employed only when the parameters characteristic of the transmission conditions do not vary according to whether the transmitter is considered or the receiver is considered. Naturally the algorithms and/or reference tables used for determining the [[said]] redundancy distribution will be identical at the transmitter and at the receiver.

Please amend the paragraph at page 11, line 26 to page 12, line 1, as follows:

A9

The characteristics of the invention mentioned above, as well as others, will emerge more clearly from a reading of the following description of an example embodiment, the [[said]] description being given in relation to the accompanying drawings, amongst which:

Please amend the paragraph at page 13, lines 14-21, as follows:

A10

At the destination, a decoding procedure ~~reconstitutes~~ reconstructs the information by means of n elementary decoding steps corresponding to the n elementary coding steps. The decoding procedure is iterative and each of its iterations ~~comprises~~ includes n elementary decoding steps corresponding to the n elementary coding steps as well as deinterleaving and depuncturing steps and puncturing and interleaving steps enabling each elementary decoding step to take into account information corresponding to the information respectively output from and input to the corresponding coder.

Please amend the paragraph at page 14, lines 12-19, as follows:

A11

In parallel to the coding procedure, a processing of observation of the transmission conditions and dynamic selection of the redundancy 33 (see Fig 1) ~~analyses~~ analyzes, in a first step 35 (see Fig 2), the transmission conditions. This processing measures the transmission conditions by means of one or more parameters. For example, this processing can calculate the signal to noise ratio. The analysis of transmission conditions can be carried out continuously or solely at given moments. It can be carried out each time a sequence is to be coded, or for a group of sequences or for certain particular sequences.

Please amend the paragraph at page 14, line 20 to page 15, line 6, as follows:

A12

The parameter or parameters calculated by the transmission condition observation processing 35, such as the signal to noise ratio, enable the processing 33, in a second step, to select a redundancy distribution. The selection is made amongst a plurality of predetermined redundancy distributions satisfying equation (1) for the target efficiency R_c. These redundancy distributions are, for example, stored in a reference table. They can also be calculated by means of a predetermined algorithm. Each of these redundancy distributions corresponds, for a given transmission condition, to an optimum redundancy distribution, that is to say the one which leads, for example, to the best transmission performance. This performance is measured, for example, in terms of bit error rate. A prior study makes it possible to associate an optimum distribution with each value of the parameter or parameters which ~~characterise~~ characterize the transmission conditions. In this way, for each given transmission condition, the processing 33 selects the optimum redundancy distribution, without modification of the target efficiency R_c.

Please amend the paragraph at page 16, lines 11-21, as follows:

A13

In parallel to the decoding procedure, a processing of observation of the transmission conditions and dynamic selection of the turbodecoding scheme 43 (see Fig 3) ~~analyses~~ analyzes the transmission conditions in a first step 45 (see Fig 4). This processing measures the transmission conditions in the same way as at transmission, so as to be able to effect a selection of a turbodecoding scheme corresponding to the coding scheme ~~adopted~~ adapted on transmission. This processing of observation of the transmission conditions can be replaced by information sent by the transmitter which directly indicates the coding solution ~~adopted~~ adapted on transmission. The plurality of decoding schemes corresponding to the plurality of

A13

transmission redundancy distributions can also be stored in a reference table or calculated by means of a predetermined algorithm.

Please amend the paragraph at page 17, line 23 to page 18, line 4, as follows:

A14

The serial turbocoder is formed by the serial concatenation of n elementary convolutional code or block code coders. Fig 5 depicts the first, second and last elementary coders, respectively designated by the references 10, 15 and 18. A puncturer acting after the coder is associated with each elementary coder. In Fig 5, the puncturers 12 and 19 correspond to the elementary coders 10 and 18. The puncturer 16 corresponds to the penultimate elementary coder, not shown. The elementary coders are separated by (n-I) interleavers. Each ~~interleaves~~ interleaver acts between the punctures of the preceding coder and the following coder. In Fig 5, the interleaver 14 separates the coders 10 and 15 and the interleaver 17 separates the penultimate coder, not shown, and the coder 18.

Please amend the paragraph at page 18, lines 5-13, as follows:

A15

The application of the step 31 of the present invention results in the deactivation of one or more elementary coders. Deactivating an elementary coder also means deactivating the puncturer and ~~interleaves~~ interleavers which follow this coder. In Fig 5, this amounts to short-circuiting the unit consisting of the coder, puncturer and interleaver, or in other words of connecting the output of the interleaver preceding this block to the input of the coder following this block. The step 32 modifies the puncturing and interleaving matrices in a suitable manner. Fig 6 presents a ~~turbodecodor~~ turbodecoder for decoding information issuing from a serial three-dimensional coder 3.